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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/966,087 | 10/01/2001 | Lan Chen | 214470US2 | 5393 |

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EXAMINER

EWART, JAMES D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2683

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,087

Applicant(s)

CHEN ET AL.

Examiner

James D Ewart

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4 and 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilbert et al. (U.S. Patent no6,016,311).

Referring to claims 1 and 7, Gilbert et al. teaches a method of allocating radio resources, in a base station, to the base station and a mobile station (Column 4, lines 3-6 and Column 5, Lines 41-48), comprising the steps of: obtaining a ratio (Column 7, Lines 9-12) between traffic of uplink for transmission from the mobile station to the base station and traffic of downlink for transmission from the base station to the mobile station (Column 4, Lines 57-65; Column 5, Lines 30 – 57 and Column 15, Lines 22-45) such that the ratio reflects empirical data (Column 5, Lines 30-48; Column 8, Lines 8-19; Column 14, Lines 17-31 and 18, Lines 41-53); and

allocating the radio resources to the uplink and the downlink according to the obtained ratio (Column 4, Lines 54-65 and Column 5, Lines 48-52).

Referring to claims 2 & 8, Gilbert et al. teaches further comprising a step of dividing time into a plurality of time periods, wherein said step of obtaining a ratio obtains the ratio (Column 7, Lines 9-12) with respect to each one of the time periods by deriving the ratio from traffic of the uplink of a corresponding time period and traffic of the downlink of the corresponding time period (Column 7, Line 66 to Column 8, Line 6; Column 8, Lines 38-47).

Referring to claims 3 and 9, Gilbert et al. teaches wherein said step of obtaining a ratio obtains the ratio by averaging a ratio between traffic of the uplink and traffic of the downlink (Column 7, Lines 9-12) over a first predetermined period with respect to each one of the time periods (Column 15, Lines 6-12; Column 15, Lines 34-49 and Column 18, Lines 41-53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. and further in view of Baden et al. (U.S. Patent No. 6,353,598).

Referring to claims 4 and 10, Gilbert et al. further comprising the steps of: obtaining an instantaneous ratio between traffic of the uplink and traffic of the downlink for a second predetermined period immediately preceding a present instant (Column 15, Lines 6-12 and Column 15, Lines 27-45 and Column 18, Lines 41-53) where the second predetermined period is shorter than the first predetermined period (Column 18, Lines 41-53); to reflect a more accurate condition of uplink and downlink requirements (Column 4, Lines 3-7), wherein said step of allocating the radio resources allocates the radio resources to the uplink and the downlink according to the weighted average (Column 4, Lines 54-65 and Column 5, Lines 48-52), but does not teach calculating a weighted sum of the real time traffic demand value and the historical traffic demand. Periyalwar teaches calculating a weighted sum of the real time traffic demand using a weighted sum of the real time traffic demand value and the historical traffic demand (Column 11, Lines 58-63). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Gilbert et al. with the teaching of Periyalwar of calculating a weighted sum of the real time traffic demand using a weighted sum of the real time traffic demand value and the historical traffic demand to allocate channels (Column 12, Lines 46-49).

3. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. and further in view of Baden et al. (U.S. Patent No. 6,353,598).

Referring to claims 5 and 11, Gilbert et al. teaches the limitations of claims 5 and 11, but does not teach transmitting, to the mobile station, information about the radio resources with

respect to at least one of the uplink and the downlink. Baden et al. teaches transmitting, to the mobile station, information about the radio resources with respect to at least one of the uplink and the downlink (Column 2, Lines 64-66). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Gilbert et al. with the teaching of Baden et al. transmitting, to the mobile station, information about the radio resources with respect to at least one of the uplink and the downlink so that each mobile station entering a cell is provided with the traffic ratio ((Column 2, Lines 65-67).

4. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. and further in view of Yun (U.S. Patent No. 6,463,295).

Referring to claims 6 and 12, Gilbert et al. teaches the limitations of claims 6 and 12, but does not teach allocating transmission power according to communication quality required for the uplink and the downlink. Yun teaches allocating transmission power according to communication quality required for the uplink and the downlink (Column 9, Lines 3-12 and Column 10, Lines 24-34). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Gilbert et al with the teaching of Yun of allocating transmission power according to communication quality required for the uplink and the downlink for power control methods that use a process for estimating the quality of received signal which is fast, insensitive to frequency offset variations; and leads to a measure that differentiates signal from interference and noise (Column 5, Lines 22-27).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Baumann et al. U.S. Patent Publication No. 2002/0099844 discloses load balancing and dynamic control of multiple ddata streams in a network.

Courtney et al. U.S. Patent No. 6,665,518 discloses asymmetric assignment of spaceborne communication system resources.

Eriksson et al. U.S. Patent No. 6,502,063 discloses method and apparatus for recursive filtering of parallel intermittent streams of unequally reliable time discrete data.

Haartsen U.S. Patent No. 6,650,630 discloses resource management and traffic control in time-division-duplex communication systems.

Hamabe U.S. Patent No. 6,201,972 discloses cellular system and frequency carrier allocation method.

Hang U.S. Patent No. 5,115,309 discloses methods and apparatus for dynamic channel bandwidth allocation among multiple parallel video coders.

Klein et al. U.S. Patent No. 6,707,798 discloses method and apparatus for reducing co-channel interference in a frame-synchronized wireless communication system.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D Ewart whose telephone number is (703) 305-4826. The examiner can normally be reached on M-F 7am - 4pm.

Application/Control Number: 09/966,087

Art Unit: 2683

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703)308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.



Ewart
September 15, 2004



WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600